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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/003,748 | 10/23/2001 | Keiichi Yabusaki | 234632US-6029-1294-8 | 4900 |

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EXAMINER

WILLE, DOUGLAS A

ART UNIT PAPER NUMBER

2814

DATE MAILED: 06/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/003,748

Applicant(s)

YABUSAKI ET AL.

Examiner

Douglas A Wille

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 23 April 2003.

2a) ☐ This action is FINAL.

2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-3, 9-34, 37-43 and 47-49 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 1/3, 9-34, 37-43, 47-49 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on 23 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some * c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.

4) ☐ Interview Summary (PTO-413) Paper No(s). _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1 – 3, 9 – 34, 37 – 43 and 47 – 49 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Applicant claims a structure with uniform electrode thickness and states that uniformity is achieved by rotating the structure while physically depositing. There is no teaching in the specification of how such uniformity could be achieved with such a deposition method nor is there a teaching of what angle is used in the ridge. The geometry of the process described makes a uniform coating impossible and is thus not enabled. In addition, with respect to claims 18, 19, 27, 28 and 60 the inequality is not enabled any more than the equality is enabled.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1 – 3, 9 – 34, 37 – 43, 45 and 47 – 49 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. It is not understood how a constant thickness layer can be produced on a ridge structure and the specification does not provide a useful technique. In addition, with respect to claims 18, 19, 27, 28 and 60 how the inequality is achieved is not understood.
6. Claim 45 at line 8 has fu. What is that? At line 9 is has wherrther. What is that?

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 9 – 16, 20, 37, 40, 42 and 47 are rejected under 35 U.S.C. 102(b) as being anticipated by Kim.
3. With respect to claim 1, Kim shows a laser diode (see cover Figure and column 2, line 45 et seq.) with a ridge and an electrode layer and shows that a uniform conductive layer is formed (see abstract).
4. With respect to claims 9, 40 and 42, the top layer of Kim is twice the side layer thickness.
5. With respect to claims 10, 11 and 12, the sublayer is Ti which has hardness > 30 and is less ductile than gold.
6. With respect to claim 13, the sublayer is e-beam deposited (column 3, line 20) which will inherently be highly reflective.
7. With respect to claims 14 and 15, the ridge is formed above the substrate and more than one groove is shown.

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8. With respect to claims 16, 37 and 47 a dielectric layer 27 is provided.

9. With respect to claim 20, the first thickness is less than the second.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 2, 3, 17, 22 – 25, 26, 30 – 34, 38, 39, 48 and 49 are rejected under 35 U.S.C.

103(a) as being unpatentable over Kim et al. in view of Yaung.

12. With respect to claims 2 and 3, Kim shows the basic structure but does not show the thickness of the conductive layer but Yuang shows a ridge structure with an electrode of Ti/Pt/Au with a thickness > 150 nm (column 6, line 37). It would have been obvious to use this thickness since it is known to be functional.

13. With respect to claim 17, the layer is > 150 nm.

14. With respect to claims 22, 30, 38, 39 and 48 the first thickness is > 150 nm.

15. With respect to claims 23 and 24, the ridge is on the first surface and two grooves are formed.

16. With respect to claim 25, dielectric layer 27 is provided.

17. With respect to claims 26 and 49, the first thickness is half the second thickness.

18. With respect to claims 31, 32 and 33, the sublayer is Ti which has hardness > 30 and is less ductile than gold.

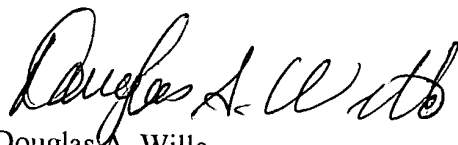
19. With respect to claim 34, the sublayer is e-beam deposited (column 3, line 20) which will inherently be highly reflective.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas A Wille whose telephone number is (703) 308-4949. The examiner can normally be reached on M-F (6:15-2:45).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (703) 308-4918. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


Douglas A. Wille
Primary Examiner

June 6, 2003